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EXAMINER	
HENEGHAN, MATTHEW E	
ART UNIT	**PAPER NUMBER**
2134	

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/397,503	AGGARWAL ET AL.	
	Examiner	Art Unit	
	Matthew Heneghan	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2004 and 21 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4 and 7-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4, and 7-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 November 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Examination of this application has been re-assigned to Examiner Matthew Heneghan.

2. In response to the previous office action, Applicant has submitted two amendments. In the first, dated 6 August 2004, Applicant amended claims 1, 3, 7, 8, 14, 19-28, and 30-38 and added claims 39-45. In the second, dated 21 September 2004, Applicant has further amended claims 1, 7, 34, and 41-45 and added claims 47-53.

3. Claims 1, 3, 4, and 7-53 have been examined.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 3, 4, 7-32, and 37-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 39 and 42 contain numerous terms, including the terms "the first number being long enough to ...," "carry enough information to...," "contain as many digits as ... are considered as safe at a time of production," that are not described in the original specification.

Claims 3, 4, 7-32, 37, 38, 40, 41, and 43-45 depend from rejected claims 39 and 42, and include all the limitations of those claims, thereby rendering those dependent claims as failing to comply with the written description requirement.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3, 4, 7-32, 37-45, and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "is only essentially reproducible" in claim 1 is a relative term which renders the claim indefinite. The term " is only essentially reproducible " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear as to what degree of reproducibility would be encompassed by this limitation, especially in the case where something is entirely reproducible.

Claims 39 and 42 contain numerous relative terms, including the terms "the first number being long enough to...," "carry enough information to...," "contain as many

digits as ... are considered as safe at a time of production," which render the claim indefinite. These terms are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For purposes of the prior art search, claim 39 is being treated as standing or falling with claim 33. Claim 42 will be treated as also teaching to the limitations of claim 33, in addition to a reader that is able to read the claimed object.

Regarding claim 50, the phrase "thereby..." renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. For purposes of the prior art search, it is being presumed that the determination is being used for tamper detection.

Claims 3, 4, 7-32, 37, 38, 40, 41, and 43-45 depend from rejected claims 39 and 42, and include all the limitations of those claims, thereby rendering those dependent claims as indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 Naccache et al., and in view of Patent No. 5,974,150, Kaish et al.

Regarding claim 34, Naccache discloses a method of preventing imitation of a smart card, said method comprising:

associating a number (identity data ID) reproducibly to said sample by using a specific reader (Naccache, fig. 2, element 23, col. 2, line 57-61); and

forming at least one coded version of said number, said at least one coded version being obtained by a public key signature (compute SIG(ID,p), Naccache, col. 1, line 52, 55-56), and said version being recorded into an area of said object (record, Naccache, col. 2, line 53),

the ID and SIG(ID) are written to the card (Naccache, column 1, line 53),

but fail to show wherein said sample is subject to a degeneration such that said measurable characteristic may vary over time and an authenticity of said sample is determined by calculation whether a subsequent measurement of said characteristic provides an associated number that is acceptably close to said initial reading; and

fail to show providing a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of the sample is random and not reproducible;

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic

(Kaish, col. 9, line 21-25). Furthermore, Kaish teaches an authentication device have adaptive capabilities to compensate for changes over time (Kaish, col. 10, line 41-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35).

Regarding claim 35, Naccache discloses show system for guaranteeing authenticity of an object, said method comprising:

means for forming at least one coded version of said initial associated number, said at least one coded version being obtained by a public key signature, (compute SIG(ID,p), Naccache, col. 1, line 52, 55-56) and said at least one coded version and signature being recorded into an area of said object (Naccache, col. 1, line 53),

but fail to show a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of the sample is random and not reproducible, said sample being placed on said object;

means for associating a number reproducibly to any said sample by using a specific reader, said specific reader providing an initial measurement of said characteristic and an initial associated number.

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic (sample random, Kaish, col. 9, line 21-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35).

Regarding claim 36, Naccache discloses show system for guaranteeing authenticity of an object, said method comprising:

means for forming at least one coded version of said initial associated number, said at least one coded version being obtained by a public key signature, (compute SIG(1D,p), Naccache, col. 1, line 52, 55-56) and said at least one coded version and signature being recorded into an area of said object (Naccache, col. 1, line 53);

but fail to show a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of the sample is random and not reproducible, said sample being placed on said object;

wherein said sample is subject to a degeneration such that said number may vary over time and an authenticity of said sample is determined by calculating whether a subsequent associated number is acceptably close to said recorded coded version;

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic (sample random, Kaish, col. 9, line 21-25). Furthermore, Kaish teaches authentication device that has adaptive capabilities to compensate for changes over time (degeneration, Kaish, col. 9, line 42-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Kaish, col. 22, line 34-35).

7. Claims 1, 3, 4, 7-9, 19-33, 37-44, 47, 52, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. and in further view of Patent No. 6,543,685 Lien et al.

Regarding claims 1, 3, 4, 52, and 53 Naccache discloses a method of guaranteeing authenticity of an object comprising:

associating a number (identity data ID) reproducibly to said sample by using a specific reader (Naccache, fig. 2, element 23, col. 2, line 57-6 1); and

forming at least one coded version of said number, said at least one coded version being obtained by a key signature (compute SIG(1D,p), Naccache, col. 1, line 52, 55-56),

wherein said object included at least one of a chip having a recording support, said chip positioned on said object (Naccache, col. 1, line 53), and another recording support, said method further comprising:

to allow for sample-reader combinations such that the number associated to said sample is only essentially reproducible, recording said number on said object card on said recording support on one of said chip;

but fails providing a sample of material obtainable only by at least one of chemical and physical processes such that a measurable characteristic of said sample is random and not reproducible, and to show another recording support;

However Kaish et al. teaches that authentication of object can be performed from a particular random or non-deterministic pattern or relation of the object, preferably deterministic pattern or relation of the object, may be measured as the characteristic (sample random, Kaish, col. 9, line 21-25); and Lien et al. teaches a card encoder where one or both of the stations (recording support) needed to encoding a chip on a smart card or for adding magnetic information on the magnetic strip (another recording support may be provided) (Lien, col. 1, line 36-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache as per teaching of Kaish and Lien to gain the benefit of obtaining a legal remedy in the case of simply copying said object (Knish, col. 22, line 34-35) and encoding a magnetic strip on the card and adding a program into an embedded chip for "smart card" status (Lien, col. 1, line 16-18).

Regarding claims 33 and 39, the ID and SIG(ID) are written to the card (Naccache, column 1, line 53).

As per claims 7 and 42, Naccache also discloses a reader for reading the object (see column 2, lines 56-64), public-key cryptography (see column 2, line 3), and information would be written to both recording supports.

Regarding claim 8, it is well-known in the art that some types of suitable readers, such as the magnetic-inductance reader disclosed by Naccache (see column 2, lines 9-

10) have some variability in their readings due to noise; therefore, there is some variance in sequential readings. Naccache discloses an RSA signature scheme (see column 2, line 67) that outputs much less information than is input.

Regarding claims 9, 22, 41, and 44, the RSA signature scheme disclosed is a public-key hash function to be used on the reading taken. Private keys are part of a public key scheme.

Regarding claims 14, 26-29, and 47, Naccache and Lien do not disclose the use of materials that decay over time or that it be selectively changeable.

Kaish discloses the use of materials that decay over time (see Kaish, column 15, lines 16-29), and further suggests that this would compel expedited examination of suspect goods.

Kaish further discloses the dividing of the label into regions, thereby making the data and the medium selectively changeable (see column 28, lines 7-43), thus allowing for the avoidance of having to encrypt the entire certificate.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Naccache by using materials that vary with time and are divided in regions, as disclosed by Kaish, as this would compel expedited examination of suspect goods and allow for the avoidance of having to encrypt the entire certificate.

Regarding claim 19, the invention in view of Kaish may be used on instruments that are made of paper, such as banknotes (see Kaish, column 10, lines 14-27).

Regarding claims 20, 21, and 30, the signatures are computed (precomputed) dynamically before being applied to the certificate.

Regarding claim 23, a scanner is used (see Naccache, column 2, line 57).

Regarding claim 24, the card includes ferrite particles, which are minerals (see column 1, lines 35-36).

Regarding claim 25, optional data, such as a password, may be used in the signature (see Naccache, column 3, lines 1-10)

Regarding claims 31, 32, 37, Naccache and Kaish and Lien further show wherein said forming at least one coded version of said number further comprises using additional information for said forming said coded version, wherein said additional information comprises the date of issue of said object (copyright text (date), Kaish, col. 22, line 31-33).

Regarding claim 38, Naccache and Kaish and Lien claim 1 above, and further show said forming at least one coded version of said number further comprises using additional information for said forming said coded version, wherein said additional information comprises the functionality of an application of said object (product identification (functionality), Kaish, col. 22, line 31-33).

Regarding claims 40 and 43, the ID is combined with a random pattern (further information) before encryption.

8. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al.

further in view of Patent No. 6,543,685 Lien et al. as applied to claim 39 above, and further in view of U.S. Patent No. 5,452,357 to Naccache (hereinafter Naccache II).

Naccache, Kaish, and Lien do not disclose the recording of data in base 3.

Naccache II discloses the writing of data in a trinary format (see column 4, lines 48-55, where d is the base being used). For ease of computation, one typically chooses a value for d of 2 or 3.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Naccache, Kaish, and Lien by storing numbers in base 3, for ease of computation.

9. Claims 10-13 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. as applied to claims 1, 8, and 9 above, and further in view of U.S. Patent No. 6,297,888 to Noyes et al.

Regarding claims 10, 12, and 46, Though Kaish discloses the use of an averaging algorithm to decrease the effects of noise (see Kaish, column 24, lines 10-25) and a tolerance of end results inside a certain threshold (see Kaish, column 27, line 57 to column 28, line 6), Naccache, Kaish, and Lien do not disclose the dropping of readings outside a certain range.

Noyes discloses the averaging of a set of readings and the dropping of readings on the edge of a region, to reduce the effects of noise (see column 10, lines 57-64).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, and Lien by averaging of a set of readings and the dropping of readings on the edge of a region, as disclosed by Noyes, to reduce the effects of noise.

Regarding claims 11 and 13, Naccache discloses a public-key algorithm to verify the user's ID (see column 2, lines 67-68). This result is the basis for accepting a card.

10. Claims 14 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. as applied to claims 1and 39 above, and further in view of U.S. Patent No. 6,155,605 to Bratchley et al.

Regarding claim 14, Naccache, Kaish, and Lien do not disclose the sensing of degeneration of a sample.

Brantley discloses the reading of emission decay characteristics in a sample (see column 6, line 34), and further notes that such a characteristic is one of a high-security entity (see column 6, lines 8-9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, and Lien by detecting the emission decay, as disclosed by Brantley, as such a characteristic is one of a high-security entity.

Regarding claim 49, Kaish also discloses a date being placed on the label (see Kaish, column 27, line 27), which is a type of timestamp. Decay can over be measured

over time, and Brantley does not disclose the means by which this would be done; therefore, a predictable decay could be measured using that timestamp.

11. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. as applied to claim 1 above, and further in view of U.S. Patent No. 6,233,339 to Kawano et al.

Naccache, Kaish, and Lien do not suggest that the change in readings should be used to detect the altering of a container.

Kawano discloses a system wherein changes in pressure, caused by a piercing of the container, can be used to detect tampering (see column 10, lines 49-61).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, and Lien by detecting changes in pressure, as disclosed by Kawano, in order to detect tampering.

12. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patent No. 5,434,917 to Naccache et al., and in view of Patent No. 5,974,150 to Kaish et al. further in view of Patent No. 6,543,685 Lien et al. as applied to claim 1 above, and further in view of U.S. Patent No. 3,795,805 to Swanberg et al.

Though Kaish discloses the dividing of a card into different zones (see column 28, lines 31-43) that may be separately usable, Naccache, Kaish, and Lien do not

disclose support for destroying a portion of being destroyed by a reader to make a payment.

Swanberg disclose the use of cards in the commuter transportation industry, wherein a reader (the attendant) punches the card when it is used, thus destroying one of the objects on the card. This allows for the offering of reduced rate multiple ride cards (see column 1, lines 5-15).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Naccache, Kaish, and Lien by issuing cards for a reader to punch when it is used, as disclosed by Swanberg, as this allows for the offering of reduced rate multiple ride cards.

Response to Amendment

13. The amendment filed 6 August 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is described in the rejections under 35 U.S.C. 112, first paragraph, above.

Applicant is required to cancel the new matter in the reply to this Office Action.

Allowable Subject Matter

14. Claims 15-18 and 50 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 15, though the prior art recites, as applied to base claim 14, the use of testing against decay characteristics, no art could be could wherein an authentication would be determined by measuring decay as recited in claim 15.

Claims 16-18 would be allowable based upon their dependence on claim 15.

Regarding claim 50, No art could be found that used a measurement of material decay to determine whether a sample had been tampered with that would be combinable with the art cited in base claim 49.

Response to Arguments

16. Applicant's arguments filed 6 August 2004 and 21 September 2004 have been fully considered but they are not persuasive. The claims have not been sufficiently modified to overcome the stated rejections.

Regarding Applicant's arguments that the fibers disclosed by Kaish could not be used in Naccache, it is noted that Naccache only uses "steel marbles" as an example, and there is no reason to believe that the use of the alternative materials disclosed by

Kaish, which would be appropriate in some applications, would destroy Naccache's invention.

17. Applicant has also requested that, in view of the fact that some of the rejections were not explained in the previous office action, this rejection not be made final. As a result, this action is non-final.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Heneghan, whose telephone number is (571) 272-3834. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday from 8:30 AM - 4:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse, can be reached at (571) 272-3838.

Any response to this action should be mailed to:
Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450
Or faxed to:
(703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEH

January 21, 2005

GREGORY MORSE
SUPERVISORY PATENT EXAMINER
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